
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REPORT

Session Topic: A **Three-day context *"Report on* Out of the Box Thinking for Problem Solving"**

The objective of the Program: The Institution Innovation Council (IIC 7.0) from the Department of Computer Science and Engineering conducted a context on "**Out of the Box Thinking for Problem Solving**" from 5/11/2024 to 7/11/2024 from 10:00 am to 4:00 p.m. for BTech CSE students at CMR Technical Campus, Telangana, Hyderabad.

Innovation refers to developing new ideas, products, or methods that improve upon existing ones or create new ways of solving problems. It is often associated with technological advancements, but it can also apply to changes in processes, business models, services, or organizational structures.
Key aspects of innovation include:

1. **Creativity**: The ability to generate novel and original ideas.
2. **Problem-Solving**: Innovation typically addresses a specific need or challenge, offering a more efficient, effective, or scalable solution.
3. **Implementation**: Turning an idea into something tangible and useful, whether it's a product, service, or process.
4. **Impact**: Successful innovation often leads to significant improvements in productivity, customer satisfaction, or quality of life.

Types of innovation include:

- **Product Innovation**: Developing new or improved products (e.g., the smartphone).
- **Process Innovation**: Improving methods of production or delivery (e.g., automation in manufacturing).
- **Business Model Innovation**: Changing how a business creates, delivers, or captures value (e.g., subscription services like Netflix).
- **Social Innovation**: Developing solutions to social challenges (e.g., microfinance programs).
- **Disruptive Innovation**: Innovations that create new markets and value networks, disrupting existing ones (e.g., streaming services disrupting traditional TV).

In today's fast-changing world, innovation is key to staying competitive and meeting evolving customer demands.

When faced with complex challenges in Innovation development and deployment, **out-of-the-box**

thinking—a creative approach to solving problems that deviate from traditional methods—becomes crucial. This type of thinking encourages exploring unconventional solutions, recognizing patterns that aren't immediately obvious, and applying cross-disciplinary knowledge to achieve breakthrough results.

Mr A. Raji Reddy Director, CMRTC has given the introduction, The establishment of the Student Innovation Cell gives opportunities to students in Research, Development, and Training activities embracing the latest Hardware & Software Technologies. The center is a knowledge Centre with the components of Knowledge Creation, Knowledge Dissemination, and Knowledge Application to grow in the areas of Research & Development, Training, and Services. The thrust R&D areas of the center are High-Performance Computing & Quantum Computing, Strategic Electronics, Cyber Security, and Software Technologies. The center has developed several products and solutions and established several labs in cutting-edge technologies.

Benefits/Outcome of the Program:

1. Students gained an understanding of industry operations.
2. Gives insight into the genuine work atmosphere.
3. Allows for effective planning, organization, and engagement.
4. Excellent opportunity to interact with specialists.
5. Helps improve interpersonal skills.
6. Improved confidence and learning experience.

Description:

The Institution Innovation Council (IIC 6.0) from the Department of Computer Science and Engineering conducted a context on "Three Day workshop on **Out of the Box Thinking for Problem Solving**" on 5/11/2024 to 7/11/2024 from 10:00 am to 4:00 p.m. for BTech CSE students at CMR Technical Campus Hyderabad, Telangana.

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In today's fast-changing world, innovation is key to staying competitive and meeting evolving customer demands.

When faced with complex challenges in Innovation development and deployment, **out-of-the-box thinking**—a creative approach to solving problems that deviates from traditional methods—becomes crucial. This type of thinking encourages exploring unconventional solutions, recognizing patterns that aren't immediately obvious, and applying cross-disciplinary knowledge to achieve breakthrough results.

- Out-of-the-box thinking is essential for overcoming Innovation's technical and ethical challenges.
- It enables creative, innovative solutions to address real-world problems in a diverse range of industries.
- The future of Innovation will rely heavily on the ability to think beyond traditional constraints and explore new opportunities for growth and optimization.

Further, Md.Asma conducted a hands-on session on each module and on the latest innovations.

- Prepare for and take charge of the advancement of next-generation Innovation technology. It includes understanding its connection to computing, trust, security, and privacy within the framework of new technologies
- Establishing an emergency response environment that facilitates efficient security monitoring and the dissemination of advisories
- Guide the need for India's digital technologies related to a Trusted and Secure Innovation ecosystem. (data, cybersecurity, AI, skills, interoperability, etc.) in industry and the public sector.
- Identifying research, innovation, and implementation objectives and issues that should be addressed to guide future public and private investments. It includes activities such as developing future work programmes and calls for proposals
- Discuss the necessity of India's digital capabilities in relation to the development of technologies associated with a trusted and secure Innovation ecosystem. Data, cybersecurity, skills, and interoperability have become increasingly prevalent in industry

and the public sector.

- Brainstorm on the mechanisms to address the identified challenges by harnessing the potential of India's startup ecosystem and leveraging the expertise of R&D institutions, academia, and Industries.

Further, Mr Deepak Kumar and Ms. Bhagya Sree Gave a brief description on the working of Rasbperry pi and working of each sensor, and current cyberattacks and malware.

- Increased Internet penetration has given exponential rise in sophisticated attacks on Information Technology (IT) infrastructure.
- Attackers are gaining access to sensitive information like credit card details and other financial information.
- Smartphone attacks are growing in multiple folds. Also with the growth of 3G services and business transactions using mobile phones, there is a substantial increase in mobile malware.
- In order to make our IT infrastructure resilient against these threats, there is a need for cutting-edge Research and Development efforts in Cyber Security.

Ms S.V Aparna and Ms. Siddamma C M gave a talk on the latest emerging trends

1. **Innovative Solutions to Complex Problems:**
    - Innovation systems often involve integrating multiple devices, technologies, and stakeholders. By thinking outside conventional frameworks, Innovation developers can uncover novel ways to integrate sensors, cloud platforms, data analytics, and artificial intelligence (AI) to address challenges such as connectivity issues, power consumption, or data overload.
2. **Improved Efficiency and Cost-Effectiveness:**
    - Out-of-the-box thinking can lead to more efficient Innovation solutions by identifying cost-effective alternatives, such as using low-power, long-range communication protocols in remote areas or combining multiple functionalities into a single device to reduce production costs.
3. **Creating New Business Models:**
    - Innovation can facilitate new business models that weren't possible before, such as **predictive maintenance** in manufacturing, **smart agriculture** techniques, or **smart cities**. Out-of-the-box thinking helps identify untapped market opportunities and ways to optimize existing models by leveraging Innovation data.
4. **Enhanced User Experiences:**
    - By thinking creatively, Innovation developers can design user-centric applications that seamlessly integrate into daily life. This can lead to better customer experiences in smart homes, healthcare, or transportation systems, where user needs and expectations evolve constantly.
5. **Scalability and Flexibility:**
    - The Innovation ecosystem is constantly growing. Creative problem-solving can help address scalability challenges by designing Innovation systems that are modular and

flexible, able to expand easily as new devices or applications are added. For example, building Innovation systems that can adapt to different environments or devices can ensure long-term relevance.

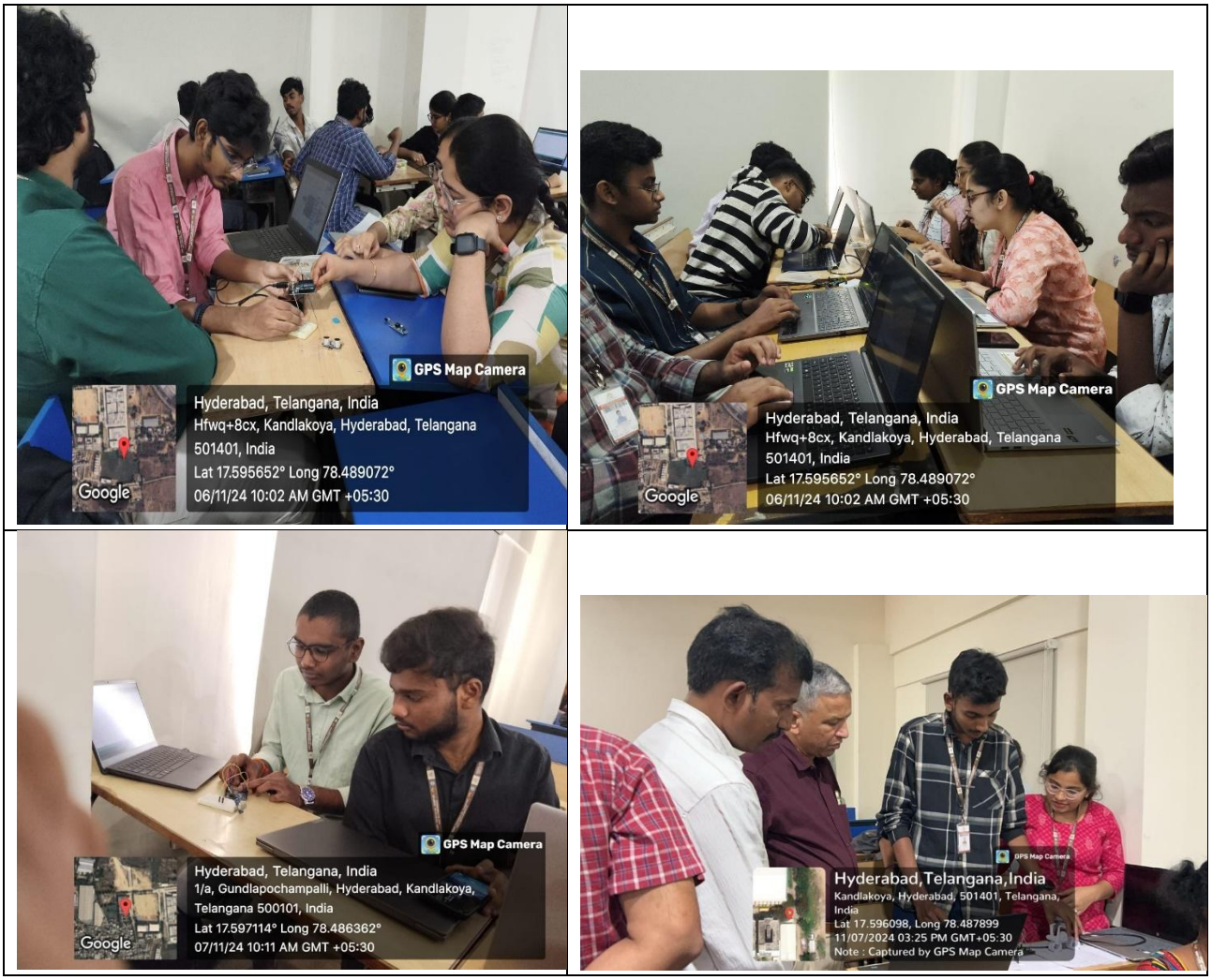
6. **Addressing Ethical and Security Challenges:**
    - Out-of-the-box thinking can be pivotal in addressing privacy and security concerns that often accompany Innovation deployments. It encourages the exploration of secure data transmission, encryption techniques, and innovative privacy-preserving solutions that protect user data while maximizing the utility of Innovation systems.

Conclusion:

The potential of the Internet of Things (Innovation) to transform industries and improve lives is immense. However, realizing this potential requires more than just traditional problem-solving approaches. **Out-of-the-box thinking** is essential for overcoming the unique challenges Innovation presents. It encourages creativity, the exploration of unconventional solutions, and the combination of diverse technologies to meet complex needs.

By embracing creative problem-solving, Innovation developers and organizations can unlock new efficiencies, design smarter solutions, and create innovative business models that push the boundaries of what is currently possible. As Innovation continues to evolve, the ability to think differently will be one of the most important factors driving future success in this field.


GPS Map Camera
Hyderabad,Telangana,India
Kandlakoya, Hyderabad, 501401, Telangana, India
Lat 17.596154, Long 78.487774
11/05/2024 10:56 AM GMT+05:30
Note : Captured by GPS Map Camera



Later after the completion session based on that certificate and prize distribution was followed:

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Department of Computer Science and Engineering

MERIT CERTIFICATE

This is to certify that Mr/Ms G. BHAVANA has successfully paricipated and stood III position in **"IOT IGNITE(workshop)"** as a part of student innovation cell held during 5th-7th november 2024 organized by **Department of Computer Science and Engineering, CMR Technical Campus.**

MD.ASMA	**DR.N.BHASKAR**	**DR.A.RAJI REDDY**
Program Coordinator	*HOD,CSE,*	*Director,*
CMRTC	*CMRTC*	*CMRTC*

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Department of Computer Science and Engineering

MERIT CERTIFICATE

This is to certify that Mr/Ms I. BHARATH has successfully paricipated and stood II position in **"IOT IGNITE(workshop)"** as a part of student innovation cell held during 5th-7th november 2024 organized by **Department of Computer Science and Engineering, CMR Technical Campus.**

MD.ASMA	**DR.N.BHASKAR**	**DR.A.RAJI REDDY**
Program Coordinator	*HOD,CSE,*	*Director,*
CMRTC	*CMRTC*	*CMRTC*

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Department of Computer Science and Engineering

MERIT CERTIFICATE

This is to certify that Mr/Ms A. SAI CHARAN has successfully paricipated and stood I position in **"IOT IGNITE(workshop)"** as a part of student innovation cell held during 5th-7th november 2024 organized by **Department of Computer Science and Engineering, CMR Technical Campus.**

MD.ASMA	**DR.N.BHASKAR**	**DR.A.RAJI REDDY**
Program Coordinator	*HOD,CSE,*	*Director,*
CMRTC	*CMRTC*	*CMRTC*

1. **Organized on:**05.11.2024-07.11.2024
2. **Student Participants number:**70
3. **Students/Faculty Registration Details with timestamp:** Attached
4. **Faculty Participants number:** 05
5. **Expenditure amount if any:** Rs. 6500/-
6. **Photographs(5to6):**

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MEDCHAL RD, HYDERABAD, TELANGANA 501 401

Department of Computer Science & Engineering
in association with Institution's Innovation Council (IIC 7.0)

Organizing a contest on

Out of box thinking for problem solving
(Sparking Ideas)

SCAN FOR REGISTRATION

5th - 7th NOVEMBER 2024

Md. Asma
IIC Co-ordinator
CMR TECHNICAL CAMPUS
Hydrabad

Dr. N. Bhaskar
HOD CSE,
CMR TECHNICAL CAMPUS
Hyderabad

Dr. Sudha Arvind
Convenor, IIC,
CMR TECHNICAL CAMPUS
Hyderabad

Dr. K. Srujan Raju
Vice President, IIC
CMR TECHNICAL CAMPUS
Hyderabad

Dr. M. Ahmed Ali Baig
President,IIC
CMR TECHNICAL CAMPUS
Hydrabad

Dr.A.Raji Reddy
Director
CMR TECHNICAL CAMPUS
Hyderabad

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For More Details:-www.cmrtc.ac.in

STUDENT LIST:

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4	2024/10/29 10:14:30 AM GMT+5:30	AMRITANSHU MISHRA	237R1A0505	A	II
5	2024/10/29 2:11:02 PM GMT+5:30	B.SUDEEPTHI	237R1A0513	A	II
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